

MATERIALS TECHNOLOGIST SERIES

Code No.	Class Title	Occ. Area	Work Area	Prob. Period	Effective Date
4093	Materials Technologist I	02	503	6 mo.	03/27/90
4734(4093)	Materials Technologist II	02	503	6 mo.	03/27/90

Promotional Line: 279

Series Narrative

Employees in this series perform engineering support functions requiring a high degree of skill in high vacuum techniques and the preparation and joining of similar and dissimilar metal, glass, and ceramic materials. At the upper level Materials Technologists are involved in the supervision and training of subordinates and provide highly specialized engineering support.

DESCRIPTIONS OF LEVELS OF WORK

Level I: Materials Technologist I

4093

Employees at this level perform engineering and research functions requiring a high degree of skill in high vacuum techniques and the preparation and joining of similar and dissimilar metal, glass, and ceramic materials. They work under general supervision from a designated supervisor.

A Materials Technologist I typically--

1. designs and develops fabrication techniques for materials used in the construction of specialized research equipment
2. operates electroplating and electropolishing facilities for metal and nonmetals
3. performs all duties peculiar to and normally required for hydrogen brazing and annealing, vacuum brazing and annealing, torch brazing, electronic beam welding, and other metal and nonmetal adhesive processes
4. consults with research staff on details of materials processing and fabrication techniques
5. secures and prepares data and statistics for reports and research
6. maintains familiarity with technical data on latest materials, practices, and fabrication techniques
7. tests fabrications and materials under extreme conditions of temperature and pressure
8. assists in training student employees as required
9. maintains, adjusts, and repairs laboratory equipment
10. performs related duties as assigned

Level II: Materials Technologist II**4734(4093)**

Employees at this level supervise and perform engineering support functions requiring a specialized degree of skill in high vacuum techniques and the preparation of metal, glass, and ceramic materials. They work under direction from a designated supervisor.

A Materials Technologist II typically--

1. supervises assigned staff, including interviewing, selecting and evaluating employees, assigning work, and instructing in laboratory procedures and techniques
2. determines project objectives by coordinating existing workload with time necessary to complete projects
3. prepares specifications for new laboratory equipment, including developing descriptions, justification for need, and budget estimates
4. designs fabrication techniques for materials used in the construction of specialized research equipment
5. designs and develops new laboratory facilities and equipment
6. performs specialized engineering support functions (such as ultrasonic and vapor blast cleaning and joining components of research apparatus)
7. performs torch brazing and annealing, electronic beam welding, and other procedures related to metal and nonmetal adhesives
8. performs duties of Materials Technologist I as required
9. performs related duties as assigned

MINIMUM ACCEPTABLE QUALIFICATIONS REQUIRED FOR ENTRY INTO**Level I: Materials Technologist I****4093****CREDENTIALS TO BE VERIFIED BY PLACEMENT OFFICER**

1. any one or any combination of the following types of preparation:
 - (a) credit for college course work leading to a major in metallurgy, ceramics, or a related field
 - (b) experience in metals and nonmetals preparation, including electroplating, glassbead vapor blast operation, or ultrasonic cleaning

that totals 1.0 unit according to the following conversion rates*:

120 semester hours (or Bachelor's degree) of "a" = 1.0 unit

three years of "b" = 1.0 unit.

2. three years of experience as outlined in 1.b in addition to the training/experience required in 1

PERSONAL ATTRIBUTES NEEDED TO UNDERTAKE JOB

1. knowledge of uses of tools and equipment, or various welding processes, and techniques used in the adhesion of metal and nonmetal materials
2. ability to read and interpret drawings, sketches, and diagrams

Level II: Materials Technologist II

4734(4093)

CREDENTIALS TO BE VERIFIED BY PLACEMENT OFFICER

1. possession of credential requirements listed for the Materials Technologist I
2. three additional years of experience in metals and nonmetals preparation, including electroplating, glassbead vapor blast operation, or ultrasonic cleaning

PERSONAL ATTRIBUTES NEEDED TO UNDERTAKE JOB

1. thorough knowledge of the properties of metals and nonmetals
2. thorough knowledge of materials annealing and heat treating processes
3. thorough knowledge of welding processes and techniques
4. thorough knowledge of processes for adhesion of dissimilar materials
5. thorough knowledge of metals and nonmetals preparation
6. supervisory ability

*Amounts of training or experience less than those listed above should be converted to decimal equivalents of 1.0 unit and added together when computing